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AMENDMENTS TO THE CLAIMS:

The listing of claims below will replace all prior versions and listings of the claims in the present application:

1-24. (canceled)

25. (new) A housing for a microstimulator adapted to be implanted in body tissue by expulsion through a hypodermic needle, the microstimulator housing comprising:

a cylindrical tube formed as a unitary structure solely of ferrite, said ferrite tube having a length, said ferrite tube further having an interior region adapted to receive microstimulator circuit elements;

an electrically conductive coil wound around an outer surface of said ferrite tube; and

an outer, cylindrical protective sleeve encasing the ferrite tube and the coil, the sleeve having a length substantially coextensive with the length of the ferrite tube, the sleeve being formed of a non-magnetic material impervious to body fluids and having opposed, sealed ends so as to isolate the ferrite tube from contact with said body fluids.

26. (new) The housing of claim 25 wherein the sleeve is formed of a ceramic material.

27. (new) The housing of claim 25 wherein the ferrite tube has an outer diameter of about 2.26 mm and an inner diameter of about 1.78 mm.

28. (new) The housing of claim 25 wherein the ferrite tube has an axial length of about 3 mm.

29. (new) The housing of claim 25 wherein the sleeve has an outer diameter ranging from about 3.2 mm to about 8.0 mm.

30. (new) The housing of claim 25 wherein the coil comprises a winding having about 10 to about 600 turns.

31. (new) The housing of claim 25 wherein the coil is formed of wire having a size of about 44 gauge.

32. (new) A microstimulator adapted to be implanted in body tissue by expulsion through a hypodermic needle, the microstimulator comprising:

an elongated cylindrical tube formed as a unitary structure solely of ferrite and having an interior region;

an electrically conductive coil wound around an outer surface of said ferrite tube;

microstimulator circuit elements disposed substantially completely within the confines of said interior region of said ferrite tube, said coil being adapted to electrically communicate with said microstimulator circuit elements; and

an outer, cylindrical, protective sleeve encasing the ferrite tube and the coil, the sleeve having an outer configuration facilitating implantation of said microstimulator through said hypodermic needle, the sleeve being formed of a non-magnetic material impervious to body fluids and having opposed sealed ends so as to isolate the ferrite tube and the coil from contact with said body fluids.

33. (new) The microstimulator of claim 32 wherein said ferrite tube has a length, and wherein said protective sleeve has a length substantially coextensive with the length of the ferrite tube.

34. (new) The microstimulator of claim 32 wherein the microstimulator circuit elements comprise at least one integrated circuit (IC) chip in electrical communication with said coil.

35. (new) The microstimulator of claim 34 wherein the microstimulator circuit elements comprise at least two IC chips, the at least two IC chips being electrically interconnected.

36. (new) The microstimulator of claim 35 wherein the at least two IC chips are electrically interconnected by an electrically conductive flex circuit.

37. (new) The microstimulator of claim 36 wherein a selected electrical terminal contact on one of said at least two IC chips is electrically connected to a selected electrical terminal contact on the other of said at least two IC chips by said flex circuit.

38. (new) The microstimulator of claim 36 wherein said at least two IC chips are positioned in close proximity by said flex circuit.

39. (new) The microstimulator of claim 38 wherein the flex circuit is folded to position said at least two IC chips in confronting relationship.

40. (new) The microstimulator of claim 32 wherein the interior of the ferrite tube includes a silicone potting matrix substantially filling any voids within the tube surrounding said microstimulator circuit elements.

41. (new) The microstimulator of claim 40 wherein the potting matrix includes a getter for absorbing any moisture introduced into said ferrite tube.

42. (new) The microstimulator of claim 32 wherein the microstimulator circuit elements include electrical elements powered by a rechargeable battery, the electrical elements including a rectifier circuit coupled to the rechargeable battery, said rectifier circuit being in electrical communication with the coil, whereby exposure of the coil to a varying magnetic field causes electric currents to be generated within the coil and rectified in a manner to recharge the battery.

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43. (new) The microstimulator of claim 32 wherein the microstimulator circuit elements include radio frequency (RF) transmission and receiver circuitry and wherein the coil is electrically coupled to and adapted to communicate with the RF circuitry as an antenna therefor.

44. (new) The microstimulator of claim 32 wherein the sleeve is formed of a ceramic material.

45. (new) The microstimulator of claim 32 wherein the tube has an outer diameter of about 2.26 mm and an inner diameter of about 1.78 mm.

46. (new) The microstimulator of claim 32 wherein the ferrite tube has an axial length of about 3 mm.

47. (new) The microstimulator of claim 32 wherein the sleeve has an outer diameter ranging from about 3.2 mm to about 8.0 mm.

48. (new) The microstimulator of claim 32 wherein the coil comprises from about 10 to about 600 turns.

49. (new) The microstimulator of claim 32 wherein the coil is formed of wire having a size of about 44 gauge.